

*Ophiocoma brevispinosa*, n. sp.

Disk subcircular, flat above, minutely granulated above and below; oral shields heart-shaped, broader than long; adorals small, crescentiform, bordering the sides of the orals; mouth-papillæ three or four on each side of an oral angle, and a group of about twelve at the apex; teeth four, the two intermediate ones larger than the two exterior. Arms a little more than three times as long as the diameter of the disk; upper plates transversely oval, about twice as broad as long; lower plates (twelfth from the base) a trifle longer than broad; aboral margin arched and a little pointed in the middle, lateral edges rather deeply excavated; oral margins a little convergingly sloping and interrupted by the outer margin of the previous plate; tentacle-scales two, short and compressed: brachial spines short, four (sometimes five on a few plates just beyond the contour of the disk), the two upper ones shorter than the others, broad and flattened; the two inferior ones (of which the second or upper one is a trifle the larger) are slightly conical, and not so long as the width of the broadest dorsal arm-plates.

Colour (of specimen in alcohol):—disk dirty white, mottled irregularly with green above and beneath; arms of the same colour as the disk, with a narrow green line, more or less distinct, down the centre; lower plates, ambulacral scales (and two lower series of spines for the most part) uniformly dirty white, and the two upper series of spines with one or two greenish rings and dots; oral shields spotted with green.

Diameter of disk 17 millims., length of arm about 54.

V.—*The Mammals of Turkestan.* By Dr. N. SEVERTZOFF.

[THE results of Dr. Severtzoff's investigations into the vertebrate fauna of Turkestan appeared in 1873 (Proceedings of the Moscow Society of Naturalists, vol. viii. p. 2); but having been written in Russian, they have remained practically unknown to most western zoologists. Mr. H. E. Dresser has recently published an abstract of the ornithological portion, with critical notes and additional information communicated by the author, who visited England last summer ('Ibis,' 1875, pp. 96, 236, &c., 1876, pp. 77 &c.). In the following pages I have translated Dr. Severtzoff's observations on the Mammals, and have added the substance of a few MS. notes of the author from Mr. Dresser's copy of the work. I have to acknowledge

the assistance of Sir Victor Brooke, Bart., and Mr. Edward R. Alston in revising the translation, and in adding the notes signed with their initials \*.—F. CARL CRAEMERS.]

### 1. *Vesperugo turcomanus*.

Is found all the year round in the whole of Turkestan, except the south-western portion of the country; but is seldom, if ever, found over an altitude of from 3000 to 4000 feet above the level of the sea.

### 2. *Vesperugo serotinus*.

Is met with in the northern portion of Turkestan only, in winter as well as in summer, in the hilly part of the country at an elevation of not more than 7000 feet.

### 3. *Vesperugo Blythi*.

Is very common throughout the country, inhabiting mostly the hills and tablelands, at a height of from 1000 to 4000 feet above the sea, below which former altitude it does not descend.

It is the commonest species in Chimkent, Tashkent, and Hodgent, where I have obtained specimens myself, and about Samarkand, where it has been obtained by M. Fedchenko (also at Tashkent). M. Fedchenko's specimens which I have examined are quite like each other and my specimens. They have been forwarded for comparison and description to Dr. Peters, of Berlin, who is occupied on a monograph of the Chiroptera. On this account I do not describe this species here, but will only remark that it is smaller than *V. akokomuli*, and appeared to me to be an intermediate form between that species and *V. pipistrellus*.

I saw it flying about at Chimkent over the water on a light evening, just about sunset, so that it could easily be shot; but it is also abroad after dark, and flew into my room at Tashkent past midnight. It inhabits the crevices in the walls of clay buildings there.

\* [Attention may be directed to the following memoirs which have appeared since the publication of Dr. Severtzoff's work:—Dr. Günther on Leporine Mammals from Central Asia (Ann. & Mag. Nat. Hist. ser. 4, xvi. pp. 228-231); Sir V. Brooke, Bart., and Mr. B. Brooke on Asiatic Sheep (Proc. Zool. Soc. 1875, pp. 509-526); Mr. W. T. Blanford on Mammals collected by the late Dr. Stoliczka in Turkestan, &c. (Journ. Asiat. Soc. Beng. xlv. pp. 105-112), on the Marmots of Central Asia (tom. cit. pp. 113-127), and on Stag's Horns from the Thian-Shan (Proc. Zool. Soc. 1875, pp. 637-641)—E. R. A.]

4. *Vesperugo akokomuli*, Temm., var. *almatensis*, Sev.

Is common in the north-eastern portion of Turkestan, viz. about the Semiretchje, the upper part of Narin, Aksay, Copal, and Vernoe. As to its vertical range, it is found at about the same altitude as the foregoing species.

A male specimen, obtained at Vernoe in May 1865, somewhat resembles *V. abramus*, Temm., in the shortness of its muzzle; but the colour, the form of the ears, and all other characters are like those of *V. akokomuli*. The ears are very wide at the base; the belly towards the tail is white, forming a semilunar white patch. It mostly inhabits the houses.

Very remarkable is the distribution of this Japanese form; but the circumstance of the characters of two Japan species being found in one specimen from Vernoe shows that the original race from which the two Japanese forms have their origin is a Central-Asian species.

5. *Plecotus auritus*, var. *brevimanus*.

Found only in the north-eastern portion of Turkestan, and very rare. It has been obtained at an altitude of from 4000 to 8000 feet.

The only specimen obtained by me I met with at the Djanbulak, on the southern side of the Kuraminsk mountain-chain, between Tashkent and Hodgent. It was at first taken by me for a new species, *P. leucophæus*; but this specimen quite agrees with the description of *P. brevimanus*, and, like it, differs from the real *P. auritus* in the shorter ears and lighter colour—characters which, according to Blasius, are not constant. The true *P. auritus* has been found in Turkestan about Vernoe, at a height of about 6000 feet; the real *P. brevimanus* only in Sicily; and specimens intermediate between the two in Sicily and Italy. But still, on these short diagnoses, I do not venture to say for certain that my *P. leucophæus* is identical with *brevimanus* without having a sufficient number of specimens for comparison; but its geographical relationship to the Turkestan *P. auritus* is the same as that of the European *P. brevimanus* to the European *P. auritus*; only no intermediate specimens have yet been met with.

6. *Plecotus leucophæus*, n. sp.

Has been found in the north-western portion of Turkestan, as stated above.

7. *Rhinolophus euryale*?

Is distributed over the whole western half of Turkestan, where it remains all the year round, at an altitude of from 1000 to 4000 feet—that is, on the grassy plains and steppes.

8. *Sorex pulchellus*.

Has been found about the Syr-Darja, in the north-western portion of Turkestan, where it is very rare, and appears to inhabit localities not more than 1000 feet above the level of the sea.

9. *Sorex leucodon*.

This shrew, as well as the foregoing species, inhabits the north-western portion of Turkestan, viz. the Syr-Darja, Aris, Callesse, and the neighbourhood of the Aral Sea. It may be seen in the hills all the year round up to an elevation of 4000 feet.

10. *Erinaccus auritus*.

Is common throughout Turkestan, its vertical range being limited to about 4000 feet above the sea.

11. *Ursus leuconyx*, n. sp. (*U. isabellinus*?, Horsfield).

The Himalayan pale-coloured yellowish-brown bear (*U. isabellinus*) described by Mr. Horsfield is known to me from Middendorff's account (*Sibirische Reise*, iii. pp. 51, 53), who takes it for a light southern variety of *U. arctos*. I cannot state with certainty whether his Himalayan bear is identical with the Thian-Shan specimens procured by me, which are also light-coloured; but the colour of the latter is rather variable, and is certainly not constantly isabelline. Consequently I have established my species on an important and constant character, the white colour of the claws. In structure it resembles *U. arctos*, especially in the skull, in the convex forehead, and the width of the jaws; the head just before the eyes suddenly narrows, and the muzzle is extremely slender compared with the massiveness and width of the temporal region. The snout is shorter than in the other species; but taking into consideration Middendorff's statement about the great variation of the proportions of the skull of *U. arctos*, we cannot fix the cranial characters of *U. leuconyx*, of which I obtained only two complete specimens. The eyes, like those of our bear, are small; the ears are rather larger, of about the same size as the muffle of the animal.

The most striking difference is in the claws, which are white, whilst those of *U. arctos* are black. The claws of the front feet of *U. leuconyx* are long and very little bent, whilst those of *U. arctos* form almost half a circle. The claws of the hind feet of *U. leuconyx* are only half as long as the front claws, and also very little bent. Its fur is wavy, and much longer than that of *U. arctos*, but not so thick; the hair is 3 to 4 inches long, especially in winter at a great altitude. The general colour is reddish brown, the hairs having yellow tips; but the legs are pure reddish brown. The coloration varies. On the high plains about the Upper Narin the fur at the root is tolerably light, and the terminal half of the hairs is whitish, so that the animal often appears dirty white with light brown legs. In the forests about Vernoe, at a height of about 3000 to 6000 feet, three fourths of the hair is reddish brown, the ends yellowish, and the general colour is reddish brown, shaded with yellow. In Karatau the bear lives at low altitudes of 2000 to 3000 feet, in small woods which afford very little shade; and in this warm climate its colour is very pale, not whitish, but yellowish, and the ends of the hair are hardly lighter than the roots. The young have a white collar like *U. arctos*.

The habits are different. About Vernoe, from the time when the Cossacks commenced to keep bees, the bear very intelligently empties the beehives. In the western spurs of the Thian-Shan mountains, and in the fertile country about Chirchick, it principally feeds on fruits, such as apples, grapes, walnuts, &c.; and, finally, at the Narin it preys principally on the marmots, and for that purpose ascends to the high tablelands considerably above the limit of the forests. I met with it in such localities during the month of October, even at an altitude of 11000 feet, when the marmots are in their winter sleep and do not come out of their holes. Then the bear digs them out, and kills in their colonies more than he is able to eat. Those he cannot eat at the time he buries again, after having first bitten through their nape. Such marmots my huntsmen found buried and quite fresh at a place where they afterwards killed a bear. This was a full-grown female 4 feet 5½ inches long, height at the shoulders 2 feet 7 lines, consequently much smaller than *U. arctos*, but proportionally higher on the legs.

The real habitat of these light-coloured bears is in the thickets, at a height of from 8000 to 10500 feet, and in the fir-forests up to 9500 feet, whence they make their hunting-trips to the high steppes.

12. *Meles taucus*.

Is a common resident throughout Turkestan, except in the highest mountains. I have never found it beyond an elevation of from 7000 to 8000 feet.

13. *Fætorius putorius*, var. *Eversmanni*.

Is common throughout Turkestan, with the exception of the south-western district, where it does not occur at all. It hardly ever goes beyond 3000 to 4000 feet in the hills, keeping more to the lower localities.

14. *Fætorius alpinus*.

I met with it about the Upper Narin, at an elevation of about 9000 feet.

15. *Fætorius ermineus*.

Is a common resident, and is found throughout Turkestan; I have not observed it, however, in the south-western portion. It occurs at high altitudes, even at the summits of some of the highest mountain-chains.

16. *Fætorius gale*.

Inhabits the Karatau and Thian-Shan mountains and the neighbourhood of the Syr-Darja.

17. *Mustela foina*.

Is a resident throughout Turkestan, and inhabits the hills at a height of from 4000 to 8000 feet above the sea all the year round, but in winter some individuals descend even lower.

18. *Mustela intermedia*, n. sp.

Inhabits the eastern portion of Turkestan, viz. the basin of the rivers Chu, Tallas, Narin, &c. It does not ascend high in the mountains, only up to about 9000 feet, and has never been seen by me below 4000 feet above the sea. It probably occurs also in the north-western part of Turkestan, which, however, I cannot state with certainty. (See below.)

19. *Mustela martes*.

Is found exactly in the same localities as the foregoing species, except the south-eastern parts of Turkestan, where its occurrence is rather doubtful.

*Mustela intermedia*, *M. foina*, *M. martes*.

In the great quantities of pelts of martens, obtained by the Kirgies in the Thian-Shan and sold at the Turkestan fairs, are found those of both *M. martes* and *M. foina*, with their characteristic light-coloured mark on the throat like an inverted V. This mark is quite regular and of a reddish yellow colour in *M. martes*, and does not reach quite to the fore legs; in *M. foina* the similarly shaped but more irregular spot, of a white colour, reaches quite to the fore legs. On the great majority of the skins for sale these characters are plainly marked.

On the other hand, there are very many specimens which present intermediate characters—sometimes as regards shape, sometimes in interruption of the branches or in the colour of the spot on the throat, which even on the most yellow-throated specimens is lighter than on the European race of *M. martes*. Between these light-reddish-yellow and pure white-coloured throat-spots, the Turkestan specimens present the most complete series of intermediate degrees. I at the same time noticed that the rarest of all is the pure white-throated race, as also the very dark yellow colour; but usually they have light-yellow or yellowish white throats, the shape of which inclines more towards *M. foina* than *M. martes*, particularly in skins sold at the western fairs about Tashkent and Chimkent.

The general colour of these two species in Europe is different. *M. martes* is of a dark reddish brown, and the under-fur is light brown; while *M. foina* is blackish brown, and the under-fur is greyish white, so that the whole coloration is greyer. In Turkestan there is no such difference in the colour; the under-fur is always light ash-colour: the long hair is sometimes blacker and sometimes more reddish brown; but both colours occur with either light or dark-coloured throat-spots; and their difference might originate from the fading of long-kept skins.

Therefore *M. martes* and *M. foina* in the Thian-Shan mountains are much less distinct than in Europe. As to proportions, I only can state that in the Turkestan species the tail is almost twice as long as the hind legs, just as it is in the two European species. But these intermediate specimens I have called in my catalogue *M. intermedia*; and another specimen was shown to me by a Tartar, who spoke Russian, under the name of the "Cashgar sable." Two of these animals, in summer and winter dress, obtained by me later on, certainly come nearer to the sable in the quality of the fur and the short tail. Its long hairs are much finer

and closer-set than those of the Turkestan or European specimens, and in winter the hairs are longer. Their colour is bright brownish black; the under-fur is hardly to be seen, being nearly altogether covered by the long hair, and is light grey with smoke-coloured ends, a little darker than in the other two species of marten. The spot on the throat is variable: usually it consists of several pale yellow or yellowish white spots placed in the form of a triangle, of which one angle points towards the mouth; these spots often reach to the fore legs. Sometimes there are even two lines formed by spots, which are even more irregular than in *M. foina*, in which the *M. intermedia* approaches the sable. The tail is longer by about one fourth than the stretched hind legs, and is a little shorter than one half of the whole body, the neck and head included—for instance, 18 inches from the tip of the nose to the root of the tail, 6 inches from the root of the tail to the claws of the hind legs, 8 inches length of the tail. If the marten is 18 inches long, the tail measures 10 inches; in a sable of the same size the tail measures only 6 inches.

In summer *M. intermedia* has the long hair of a blackish brown colour, a little shorter and duller than in winter; the under-fur is shorter and coarser, and of a darker brownish grey colour.

The price of marten-skins in Tashkent ranges from 3 to 5 roubles, according to their quality and the number of skins brought for sale by the Kirgies. Those of *M. intermedia*, or "Cashgar sable," fetch twice as much, say up to 10 roubles. The Kirgies sell them wholesale at a uniform price; but they are sorted afterwards before resale by the Tashkent dealers. The trapping is carried on during the autumn and winter.

The martens which approach to *M. martes* live in the fir-woods of the Semiretchje and Sacleysky Alatan and about Issik-kul; those which resemble *M. foina* inhabit all the Thian-Shan mountains (at Merke they descend in winter into the steppes and plains in pursuit of mice and birds); and, finally, *M. intermedia* inhabits the fir-woods at extremely high elevations, as well as the bilberry-bushes, and even beyond the limit of the tree-growth. Altogether *M. intermedia* keeps in the central and highest parts of the Thian-Shan mountain-chains, at both sides of the Narin river.

All this information was given to me by the Kirgies, to whom I showed the different marten-skins, asking them where they had met with them. Some of the Kirgies consider them to be one species, but always distinguish them by the localities they inhabit.

For the definite determination of the Turkestan martens



skeletons are wanted; for *M. martes* and *M. foina* differ in their dentition and palatal ridges, and *M. zibellina* differs from both by the number of the caudal vertebræ. Judging only from the skins, it appears probable to me that *M. foina*, *M. martes*, and *M. zibellina* have one origin, and that the Thian-Shan is the native place of all the three, where, up to the present, as it appears, they have not fully differentiated and obtained specific independence. This may be caused by the want of large woods on the mountains, where even the fir and birch trees grow only in small groves or even singly.

20. *Lutra vulgaris*.

Is to be met with all the year round in Turkestan, except the Zarevshan steppes and mountains and the vicinity of the river Syr-Darja. It does not go up in the mountains very high, never having been met with by me above the cultivated district of about 4000 feet altitude.

21. *Canis lupus*.

Inhabits all Turkestan, and is met with at almost every altitude in the mountains, except in winter, when they leave the summits of the highest mountains.

22. *Canis alpinus*.

I have met with this species in the vicinity of Kopal and Vernoe, but not lower than 5000 feet altitude.

23. *Canis familiaris*.

Extremely common throughout Turkestan in summer; but in winter they leave the highest parts of the mountains.

24. *Canis vulpes*.

If any thing, it is even commoner than the preceding species, as even in winter it was met with in the highest-situated localities.

25. *Canis melanotis*.

Is found all over Turkestan, except the south-western districts comprising the Hodgent valley, the entire Zarevshan valley, and the Syr-Darja steppes. It is not found higher than about 7000 feet above the sea.

26. *Canis corsak*.

Is found exactly in the same places as the preceding, but has never been observed by me above 1000 feet altitude.

27. *Felis tigris*.

Is common in Turkestan, especially up to about 4000 feet altitude; but beyond that it is rare in winter, and only in summer does it visit localities which are higher than 7000 feet.

28. *Felis irbis*.

Common, but not below 4000 feet.

29. *Felis jubata*.

Only in the western portion of Turkestan have I met with this species, and even there only in the low plains.

30. *Felis lynx* (cum var. *cervaria*).

Is a resident in Turkestan, and seems to inhabit a zone not below 4000 feet nor above 10000 feet; I did not find it at any other altitude.

31. *Felis manul*.

Inhabits the east of Turkestan.

32. *Felis servalina*.

I met with it only in the western parts and in the low steppes, plains, &c., not above 1000 feet above the sea\*.

\* [In the copy of the 'Fauna of Turkestan' I find the following note made by Dr. N. A. Severtzoff.—F. C. C.]

*Felis servalina* is *F. servalina*, Jardine, 'Naturalist's Library,' "Cats;" synon. *F. ornata*. It is figured in this work evidently from a stuffed specimen; legs too long, but the markings identical. In the description the proportion of height to length (10 inches to 15) is wrong—again, I think, from incorrect stuffing of the described specimen, which was in the Edinburgh Museum, and which from its small dimensions was evidently a young one, the adult averaging 23–25 inches in length without tail, which latter measures about 1 foot.

Since then, this animal (adult) has been very carefully described, from Ust-Urt, by Eversmann (Bullet. Soc. Natur. de Mosc., about 1850). Eversmann named it also *F. servalina*. Therefore I cannot mention it as new, knowing two good descriptions and a figure.

This cat is the *Chaus caudatus*, Proc. Zool. Soc. 1874, p. 31, pls. vi. & vii. The specimen described was labelled in Russian from the Jan-

33. *Felis catus domestica*.

Throughout Turkestan; but does not occur above the apple and ash-grove district.

34. *Arctomys baibacinus*.

I found this species in the highest mountains of the east; below 4000 feet altitude they did not come under my observation\*.

35. *Arctomys caudatus*.

Up to the present time I have found this species only in one locality, viz. in the Carahurinsk rocks, south of the Aulje-ata, in the mountain-chains between Tallas and Chirchik. The only specimen preserved has been lost; but I remember that it was yellow, with fine black longer hair, the head was darker and blackish; the colour and shape (except the tail) were generally like those of *A. baïbak*. In my notes, however, I have the measurements of a young specimen obtained by me: its length from the tip of the nose to the root of the tail was 14 inches 2 lines, tail 8 inches 5 lines. This long tail affords a good specific character for *A. caudatus*.

At the place where this specimen was killed there were about twenty holes in the ground, proving that this species, like the other marmots, lives gregariously.

Jacquemont, who discovered this species, also found it only in one high-situated plain of the Himalayas, a little east of Cashmir, on the road to Ladak.

These two localities show that *A. caudatus* inhabits the south-western Thian-Shan and the north-western Himalayas, and probably also all the space between the two mountain-chains where they are interrupted; but the occurrence in the above two localities might also be sporadic, being the two outer limits, and the space between them unknown.

Darja (not Dyanau), a branch of the lower Syr, now dry, but at that time flowing. All my specimens I gave to the Academy of Sciences in St. Petersburg, and this also. I do not know how it came into the British Museum.

[The true *F. servalina* is a West-African species. Cf. Sclater, Proc. Zool. Soc. 1874, p. 495, pl. lxiii.—E. R. A.]

\* [Dr. Severtzoff subsequently suggested that these specimens might belong rather to Milne-Edwards's *A. robustus*, which Mr. Blanford identifies with *A. himalayanus* of Hodgson. Cf. Journ. Asiat. Soc. Beng. xlv. p. 126.—E. R. A.]

36. *Spermophilus fulvens*.

Has been met with by me in the low plains of western Thian-Shan and Karatau, not above 4000 feet altitude.

37. *Spermophilus leptodactylus*.

Is a resident in the low-situated localities of Western Turkestan.

38. *Spermophilus brevicauda*, Brandt (*mugosaricus*?, Licht.).

Inhabits all the low-lying parts of Turkestan, except the south-western district, comprising the whole Zarevshan valley and Hodgent district, where I have not met with it.

39. *Spermophilus* sp.? (*brevicauda*?).

The note of interrogation is placed here on account of my having lost the specimens obtained at Karabur, and not being able to compare them with typical *S. brevicauda*; but the latter I know well from specimens of my own collecting in the Kirgias steppes of the lower Ural, and from the careful examination of one hundred and fifty specimens obtained by Carelin in the latter locality. At first sight I referred the Karabur specimens to *S. brevicauda*, on account of the small size (7-8 inches exclusive of the tail), the short tail, and the grey colour, with indistinct, almost insignificant pied markings, caused by the blackish and pale yellow rings round each hair. I was rendered doubtful of the correctness of this determination only by the fact that *S. brevicauda* is an inhabitant of low plains, and no specimens of this genus have been found in the cultivated altitude of the Karabur; but these steppes are not well known yet. But then there is the analogical fact that *S. musicus* has been found high up in the Caucasus and in the New-Russian steppes.

I may mention here that I did not find any great difference between *S. musicus* and *S. brevicauda*. The former is described as quite grey, and the latter as greyish pied, with each hair of two colours, and a yellow belly; but the roots of the belly-hair of *S. brevicauda* are yellow, their ends are sometimes yellowish brown and sometimes whitish. The pied appearance of the back is sometimes very plain and sometimes quite insignificant; and the shades of these characters on Ural specimens are innumerable; no two are alike. On the other hand, *S. musicus* is unicolorous only in comparison with *S. guttatus*, which inhabits just the same New-Russian steppes, the hair of the former being closely marked with rings; the

mottled appearance is not so easily noticed; but the width and number of these rings on the hair of *S. brevicauda* is also variable.

Therefore it would be useful to make more exact comparisons between *S. mugosaricus*, *S. brevicauda*, and *S. musicus*, the ranges of which meet on the Lower Volga and Don; and perhaps they may prove to form only one species. Here it also must be stated that the first description of *S. mugosaricus* was taken by Lichtenstein from a specimen from the Kirgies steppes; whilst the first description of *S. musicus* was made by Ménétrics from a mountain specimen from the Caucasus. The Karabur specimens were obtained at an altitude of from 7000 to 9500 feet, on the grass-covered plains of the summits of the Karabur Mountains.

#### 40. *Arvicola arvalis*.

Inhabits the north-eastern portion of Turkestan, and does not appear to go beyond an altitude of about 6000 feet.

#### 41. *Arvicola leucura*, sp. n.\*

Is found in the north-western parts of Turkestan. It goes exactly as high as the preceding species, but has not been observed below 1000 feet altitude.

The fur is soft like that of *Cricetus*, light brownish grey, on the belly white; the base of the hair on the whole body is plumbeous. The ears project beyond the fur. The tail is one fourth as long as the body, and is snowy white, with a black tip of rather longer hair. The first lower molar tooth has nine prisms, like that of *Arvicola*.

The most striking specific characters are in the white tail and soft hair; and the species may thus be diagnosed:—

*Arvicola cauda nivea subpenicillata, apice obscuriore, vellere molli cinerascente, infra albo, auriculis e vellere prominentis.*

I obtained only one specimen, on the Upper Massat in the lower mountains of the Thian, between Aulje-ata and Chimkent, in December 1866.

#### 42. *Arvicola gregalis*.

Has been observed in the same localities as the preceding species. I myself met with it in the Karatau at the upper

\* [Should this prove to be a good species it will require a new name, *A. leucurus* having been used by Gerbe (Rev. Zool. 1852, p. 260) for a European vole which Blasius and Fatio consider to be identical with *A. nivalis* of Martius.—E. R. A.]

Bugun, where it is abundant. My specimens, four in number, differ from Siberian examples in the darker and more yellowish colour (*supra cano-fulvescens pilis permultis nigris obumbrata*); but the first molar tooth consists of only eight prisms, which is a good character of *A. gregalis*, as all the other *Arvicolæ* have nine. The size, length of tail, ears, and all other characters are similar to those of the Siberian specimens.

#### 43. *Mus Wagneri*.

Is an extremely common resident throughout Turkestan, and is to be found in the hills up to 4000 feet high (*i. e.* in the cultivated districts and on the grassy steppes).

#### 44. *Mus Wagneri*, var. *major* (*M. tokmak*?, n. sp.?).\*

From the typical form this race differs only in its larger size, in which it approaches *M. sylvaticus*, which has also some resemblance to the small *M. Wagneri*. I am sorry to say, however, that the large as well as the small specimens which I preserved in spirits were left at Tashkent.

I will mention here that this mouse is a steppe-inhabitant in the Ural, as well as on the Kirgias steppes; but in Turkestan, where *M. musculus* is absent, *M. Wagneri* is the house-mouse. It is numerous in the Chimkent and Tashkent houses, where it does not differ at all from the Kirgias-steppe specimens. The large variety I have obtained in a house in a village built in 1864.

This domestic breed of *M. Wagneri* get soon used to men if they are not disturbed; they are easily startled, but not shy or wild, and extremely inquisitive. In my room in Tashkent one of these mice lived, which used to creep up on my table when I was writing. It fed in my presence on the remains of my dinner or supper; often sat even on my books, watching my hand when writing. It would even eat from my hands; but as soon as I moved it tried to hide itself between the books on the table, and after a very short time appeared again at the old place. It appeared to be quite tame; so that once I caught it with my hands in order to feed it; it got, however, frightened, and never appeared again, notwithstanding my leaving out food for it; it had evidently lost its confidence in me.

\* [Mr. Blanford has since described "the common house-mouse of Eastern Turkestan" as a new species, under the name of *M. pachycercus*; he regards it as most nearly allied to *M. bachtrianus*: Journ. Asiat. Soc. Beng. xliv. p. 108.—E. R. Å.]

45. *Cricetus songarus*.

Has been observed almost all over Turkestan, except in the Zarevshan districts and the neighbourhood of Hodgent; it is more an inhabitant of the lower altitudes, to which it appears to keep the whole year round.

46. *Cricetus Eversmanni*.

Has been obtained about Issik-kul in the larch-wood and apple-tree district.

47. *Cricetus accedula* (sec. Eversm., e coll. Karel.).

Occurred at the same place as the preceding species, but on a lower-situated plain.

I do not describe here the well-known *Criceti* of Turkestan (*C. songarus*, *C. Eversmanni*, *C. accedula*)\*, but will mention a new species discovered, although it does not belong to Turkestan.

[*Cricetus murinus*, sp. n.]

Belongs to the genus *Cricetus*, as proved by its cheek-pouches (*sacci buccales*), but does not at all resemble the hamster in outward appearance. The form resembles that of the mice; the body is tolerably slender; the tail measures half of the length of the body, the head included; the colour and size are like those of *Arvicola arvalis*, viz.:—length from the tip of the nose to the root of the tail about  $3\frac{1}{2}$  inches; tail  $1\frac{1}{2}$  inch, or a little longer; the colour above is greyish dark brown, below ash-colour. Only two specimens are known to me:—the one which I caught in August 1857 on the steppe grass of the summit of Ori, and presented to the Museum of the Academy of Moscow; and the second is in M. Gluch's collection at Sarepta, near which place it was obtained: both specimens are preserved in spirits. The latter was marked *Arvicola arvalis*; and I had my attention drawn to it by the long ears, which are half as long as the head, whilst the ears of the true *Arvicola arvalis* are much shorter and almost hidden by the fur. Then I looked for the cheek-pouches, which I found.

On account of its resemblance to *Arvicola arvalis*, this little beast is easily overlooked. The collector ought to look out for the combination of murine ears with the form and colour of *A. arvalis*; and in such specimens the cheek-pouches

\* [*C. fulvus*, a new species allied to *C. phœus*, is described by Mr. Blanford from Eastern Turkestan, Journ. Asiat. Soc. Beng. xlv. p. 108.—E. R. A.]

must be sought for. I will also add that *C. murinus* is somewhat darker than *A. arvalis*. As regards the geographical distribution of this hamster, only the two above-mentioned localities are known, as I have not since then met with any others.

In the spring of 1864 I met with many *A. arvalis* on the Irtysh and Ishim. I examined them in search of cheek-pouches; but there were no *C. murinus* among them.]

#### 48. *Meriones tamaricinus*.

Has been met with by me about the Lower Syr-Darja and Lake Aral in the low plains, where it is a resident.

#### 49. *Meriones meridianus*.

Range similar to that of the preceding species.

#### 50. *Meriones opinus*.

A very common resident throughout Turkestan, except the south-western parts. It keeps, however, always at low elevations.

#### 51. *Meriones (Rhombomys) collium*, n. sp.

Is an intermediate form between *M. opinus* and *M. tamaricinus*, having the size and coloration of the latter and the tail-tuft of the former; but it is differently coloured from either, and somewhat smaller. Here I give the comparative diagnoses:—

*M. collium*. Supra rufescens, nigro irroratus, apicibus pilium nigris, subtus albus; cauda corpori concolor, floccosa, bicolor, pilis rufescentibus et nigris intermixtis; flocco etiam bicolori, fuliginoso et canescente; dentes incisores supra unisuleati.

*M. opinus*. Supra pallide et sordide fulvescens, fuliginoso irroratus; cauda præter floccum nigrum unicolor, intensius fulva; dentes incisores bisuleati.

(*M. lybicus*). Ut *M. opinus*, sed incisuris unisuleatis.

*M. tamaricinus*. Ut *M. collium*, sed flocco caudæ perparvo, pæne distincto, cauda unicolori fuliginosa.

*M. collium* has the black tail-tuft surrounded by a pale grey margin; the hair of the latter is just as long as the black-tuft hair. Length about 7–8 inches, tail 6½–7 inches. Obtained on the lower spurs of the Semirechinsk-Alatau, between Koksa and Hey, and also on the Karatau Mountains. In the latter locality I obtained in June 1867 a young specimen, which



differs from the adult only by its smaller size and the proportionally smaller tail-tuft.

*M. opinus*, which has been collected in great numbers on the Iley, near Hodgent, and lower down at the Syr-Darja, has sometimes a sharply marked black line running from the tail-tuft along the upperside of the tail almost to its root; this line, however, is very variable in its length.

According to the characters and distribution it appears to me that *M. collium* is the general origin of the steppe gerbilles (*M. tamaricinus* and *M. opinus*), which inhabit the bottom of what, geologically speaking, was at no distant period a lake; as well as of *M. lybicus*, which, in its dentition, comes closer to *M. collium* than is *M. opinus*, and perhaps has been driven out by the latter to the south-west.

But up to the present time the limits of the ranges of *M. opinus* and *M. lybicus* are unknown; they probably meet in the deserts of Persia or Syria\*.

52. *Dipus jaculus*.

Has been found by me almost all over Turkestan, being not rare in the eastern parts and very common in the north-western districts, where it appears to be a resident at an altitude of from 1000 to 4000 feet above the sea, *i. e.* in the cultivated districts.

53. *Dipus acontion*.

54. *Dipus sagitta*, var. *telum*.

55. *Dipus lagopus*.

56. *Dipus platyurus*.

These four species have been observed in the low plains at the mouth of the Syr-Darja, at the sources of the Aris, and about Lake Aral as residents.

57. *Ellobius talpinus*, var. *rufescens*.

Has been met with by me throughout the east and north of

\* [In his list Dr. Severtzoff originally named this species *Meriones montanus*; but having discovered that this name was preoccupied by Sir Andrew Smith for a South-African species, he renamed it (at p. 83) *Meriones collium*.—F. C. C.]

[Mr. Blanford describes an interesting new species from Eastern Turkestan, which he names *Gerbillus cryptorhinus*, from the remarkable semicircular flap which covers the nostrils (Journ. Asiat. Soc. Beng. xlv. p. 108).—E. R. A.]

Turkestan, being an extremely common resident in the lower altitudes, up to about 4000 feet above the sea.

58. *Hystrix hirsutirostris*.

Common throughout Turkestan; it does not frequent very high-situated localities, nor does it occur in the low plains.

[To be continued.]

VI.—*Descriptions of new Genera and Species of New-Zealand Coleoptera*.—Part III. By FRANCIS P. PASCOE, F.L.S. &c.

TROGOSITIDÆ.	Eugnomus elegans.
Leperina Brounii.	— picipennis.
	— fervidus.
LAGRIIDÆ.	Sibinia tychioides.
Lagrioda Brounii.	Psepholax simplex.
	Acalles intutus.
	— erroneus.
CEDEMERIDÆ.	— hystriculus.
Thelyphassa, n. g.	Tychanus, n. g.
— diaphana.	— gibbus.
	— ferrugatus.
	— verrucosus.
CURCULIONIDÆ.	Sympedius, n. g.
Trachyphloeus porculus.	— testudo.
Brexius ascitus.	— vexatus.
Phrynixus astutus.	Crisius, n. g.
Empæotes, n. g.	— binotatus.
— crispatus.	Pactola demissa.
— censorius.	
Aldonus celator.	LAMIDÆ.
Oreda brevis.	Xylotoles Traversii.
Hypotagea, n. g.	Stenellipsis pumila.
— rubida.	

*Leperina Brounii*.

*L. castanea*, capite prothoraceque fuscis, tenuiter punctatis, hoc minus transverso, basi angustiore; scutello valde transverso; elytris plus minusve flavo-vel albido-squamosis, lineato-costatis, costis interruptis, punctis profunde impressis. Long. 4 lin.

*Hab.* Tairua.

Allied to *L. sobrina*, Wh. (*Gymnocheila*), but with a less transverse prothorax, more contracted at the base, and the elytra with the costæ more interrupted, owing to the stronger